

The Hyperspectral Infrared Imager (HyspIRI) Public Health & Air Quality Applications
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Abstract:

The neglected tropical diseases (NTDs), a group of chronic, debilitating, and poverty-promoting parasitic, bacterial, and some viral and fungal infections, are among the most common causes of illness of the poorest people living in developing countries. Abiotic environmental factors are important in determining the distribution of disease-causing vectors and their life-cycles.

HyspIRI observations can be merged through a Land Data Assimilation System (LDAS) be used to drive spatially-explicit ecological models of NTD vectors distribution & life cycles. Assimilations will be driven by observational data LDAS and satellite-derived meteorological forcing data, parameter datasets, and assimilation observations.

HyspIRI hyperspectral measurements would provide global measurements of surface mineralogy and biotic crusts important in accessing the impact of dust in human health. HyspIRI surface thermal measurements would also help identify the variability of dust sources due to surface moisture conditions and map mineralogy.